

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

CENTER FOR BIOLOGICAL DIVERSITY,
et al.,

Plaintiffs,

v.

No. CIV 03-252 LFG/LAM

GALE NORTON, in her official capacity as
Secretary of the Interior, et al.,

Defendants.

MEMORANDUM OPINION AND ORDER

Introduction

THIS MATTER is before the Court on Plaintiffs' Petition for Review of Agency Action, filed July 2, 2004 [Doc. 29] and Plaintiffs' opposed request for evidentiary hearing on the Motion for Review, filed December 29, 2004 [Doc. 54]. On June 7, 2005, the Court ordered supplemental briefing [Doc. 64], and both parties complied. The Motion for Review is now fully briefed.

The Court has carefully considered the pertinent law, briefing by both parties, supplemental authority provided by Plaintiffs, and the Administrative Record ("AR")¹ in this case. The Court finds

¹In the Court's review of an agency decision, the general rule requires the district court examine the "whole record" or the "full administrative record that was before all decision makers . . . at the time [the agency made] the decision." Bar MK Ranches v. Yuetter, 994 F.2d 735, 739 (10th Cir. 1993). The Administrative Record in this case is massive. It includes approximately 24 large 3-ring binders containing about 9500 pages. The first 20 volumes are designated with the abbreviation "AR" in this opinion; the last four volumes are the supplemental Administrative Record and are designated with the abbreviation "SAR" in this opinion. For additional discussions of the Administrative Record and what Plaintiffs sought to have the Court review, *see* Court Opinions, issued July

that an evidentiary hearing is not necessary, and Plaintiffs' request for a hearing is therefore denied. Based on its review, the Court concludes that Defendants' determination not to list the Rio Grande Cutthroat Trout ("RGCT") as endangered was not arbitrary or capricious, and is supported by the administrative record in this case. Accordingly, Plaintiffs' challenges to the Secretary's determination and their requests for relief are denied.

Background

Plaintiffs' lawsuit challenges the June 2002 finding by the United States Fish & Wildlife Service ("FWS") that listing the RGCT² under the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-44 was "not warranted." [Doc. 13, IPTR, at 1]. The RGCT is native only to Colorado and New Mexico. AR 721. The RGCT is the southernmost of 14 subspecies of cutthroat trout. AR 1009. It is dark olive in color with sparsely scattered black spots. The RGCT, New Mexico's state fish, gets its name from parallel scarlet stripes on the underside of its jaw. It is native to the cold water mountain streams and lakes of Northern New Mexico and Southern Colorado. New Mexico Blue Book, 2001-2002 (Publication of the New Mexico Secretary of State); [Doc. 1 ¶ 18].

The historical distribution of the RGCT is not known with certainty. Candidate Status Review ["CSR"] for Rio Grande Cutthroat Trout, 67 Fed. Reg. 39,936 (June 11, 2002) (hereinafter cited in the format "CSR 39,936"). "[I]t is assumed that RGCT occupied all streams capable of supporting trout in the Rio Grande and Pecos basins It is unclear if RGCT were also present

20, 2004 and March 3, 2005 [Docs. 36 and 63].

²The RGCT (*Oncorhynchus clarki virginalis*) is closely related to two other cutthroat subspecies, the large-spotted greenback cutthroat trout and the Colorado cutthroat. AR 50.

n the Canadian River Basin.” Id.; AR 1009. Although the historical range is not known with certainty, its distribution was likely limited to cold water mountain streams.

Plaintiffs are the Center for Biological Diversity, Biodiversity Conservation Alliance, Carson Forest Watch, Center for Native Ecosystems, Pacific Rivers Council and Michael Norte. Most of the Plaintiffs are non-profit organizations. Mr. Norte is “an avid catch and release flyfisher.” [Doc. 1].³

Plaintiffs bring their Complaint for Declaratory and Injunctive Relief alleging that Defendants violated the ESA by not listing the RGCT and violated the Administrative Procedures Act (“APA”) by making a decision that was arbitrary and capricious, an abuse of discretion and/or not in accordance with law. [Doc. 1, First and Second Causes of Action]. Plaintiffs seek an injunction to vacate the “not warranted” decision and an order requiring Defendants to issue a new rulemaking and new finding on the RGCT within 60 days. Plaintiffs also request an award of costs and fees. [Doc. 1].

Plaintiffs allege *inter alia* that the historic range of RGCT has been drastically reduced for a number of reasons, including fragmentation, environmental events such as fire or drought, loss of genetic diversity, changes in population structure, human activities, water diversions and dams, livestock grazing and logging, pollution of streams, the spread of non-native trout and the presence of whirling disease. [Doc. 1]. As a result, Plaintiffs requested that FWS list the RGCT as threatened or endangered under the ESA.

³Plaintiffs are a consortium of organizations and individuals who zealously advocate for important environmental issues and are staunch defenders and protectors of wildlife and endangered species. Their tireless efforts, often unappreciated and more often criticized, have served to enhance biodiversity in this country and to protect literally hundreds of species of mammals, reptiles, fish, birds, invertebrates and plant life. While Plaintiffs did not prevail in this lawsuit, their advocacy nonetheless is valued and appreciated.

Endangered Species Act

Congress enacted the ESA “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species. . . .”⁴ 16 U.S.C. § 1531(b). The legislative history of the ESA contains support for the proposition that Congress intended that preventive action to protect species be taken “sooner rather than later By heeding the warnings of possible extinction today, we will prevent tomorrow’s crisis.” Defenders of Wildlife v. Babbitt, 958 F. Supp. 670, 680 (D.D.C. 1997).

A species receives the protections of the ESA when the FWS lists the species as “endangered” or “threatened.” A species is deemed “endangered” when it is “in danger of extinction *throughout all or a significant portion of its range*”⁵” 16 U.S.C. § 1532(6). A “threatened” species is defined as “likely to become an endangered species within the foreseeable future *throughout all or a significant portion of its range*.” 16 U.S.C. § 1532(20). A “species” includes “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C. § 1532(16).

⁴One federal court described the enactment of the ESA in the following terms: “Congress enacted the ESA in 1973 out of deep concern for preservation of America’s wildlife The Supreme Court found that Congress [in passing the ESA] intended ‘to halt and reverse the trend toward species extinction, whatever the cost.’ The ESA provides an array of statutory protections to species listed as “endangered” or “threatened.” If a species is listed under the ESA, the Secretary, must not merely avoid elimination of that species, but is required to bring the species back from the brink sufficiently to obviate the need for protected status. Thus, ‘listing is critically important because it sets in motion the Act’s other provisions, including the protective regulation, consultation requirements, and recovery efforts.’” Federation of Fly Fishers v. Daley, 131 F. Supp. 2d 1158, 1163 (N.D. Cal. 2000) (internal citations omitted).

⁵The Court italicized this portion of the statutory language because this language is at the heart of Plaintiffs’ primary argument that FWS violated provisions of the ESA.

The ESA directs the Secretary of the Interior to determine whether to list a particular species, based on the determination of whether that species is threatened or endangered. 16 U.S.C. §§ 1533(a), 1532(15). Plaintiffs bring this lawsuit against Gail Norton, Secretary of the Interior; and Steven Williams, Director of FWS, the agency involved in making the initial decision whether to list a species as threatened or endangered. Such a listing is to be made if the Secretary determines that a species is endangered or threatened because of any one of the following factors:

- (1) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (2) overutilization for commercial, recreational, scientific, or educational purposes;
- (3) disease or predation;
- (4) the inadequacy of existing regulatory mechanisms; or
- (5) other natural or manmade factors affecting its continued existence.

16 U.S.C. § 1533(a)(1); 50 C.F.R. § 424.11(c).

The FWS must make listing determinations “solely on the basis of the best scientific and commercial data available,” without reference to the possible economic or other impacts of such a determination. 16 U.S.C. § 1533(b)(1)(A); 50 C.F.R. § 424.11(b). “Reliance upon the best available scientific data, as opposed to requiring absolute scientific certainty, ‘is in keeping with congressional intent’ that an agency ‘take preventive measures *before* a species is ‘conclusively’ headed for extinction.’” Center for Biological Diversity v. Lohn, 296 F. Supp. 2d 1223, 1236 (W.D. Wash. 2003) (emphasis in original). If a species is listed, various protections are engaged both as to the members of the species and the species’ critical habitat. 16 U.S.C. §§ 1534-38.

Plaintiffs brought this case to the attention of the FWS through the ESA’s citizen’s petition provision. 16 U.S.C. § 1533(b)(3)(A). On February 25, 1998, Plaintiffs petitioned the FWS to list

the RGCT as either endangered or threatened under the ESA. CSR 39,936; AR 46-89. On September 14, 1998, the FWS issued a negative 90-day finding. 63 Fed. Reg. 49,062 (Sept. 14, 1998); AR 1010. On June 9, 1999, Plaintiffs filed a lawsuit challenging this decision. CSR 39,936. The FWS subsequently determined, based on receipt of additional information, that further review of the RGCT was warranted. CSR 39,936; AR 1010. The parties, however, negotiated a settlement which resulted in dismissal of the case. Pursuant to their settlement, the FWS would conduct a “candidate status review,” consisting of information gathering as to the status of the RGCT. *See*, AR 1006; CSR 39,936. The FWS’s status review lasted approximately six months. On June 3, 2002, the FWS made its “not warranted” listing decision and, as noted above, that decision was published in the Federal Register on June 11, 2002. It is this analysis and decision (the candidate status review, or “CSR”) which Plaintiffs challenge in this lawsuit.

On July 2, 2004, Plaintiffs filed their Motion for Review of Agency Action, which is sometimes likened to a motion for a summary judgment (even though the Rule 56 standard of review is not employed). In opposition to the Motion for Review, Defendants generally argue that the FWS utilized its biological expertise to assess the present status of the RGCT and that the best available scientific data⁶ did not support listing the RGCT.

Standard of Review

Judicial review of administrative decisions involving the ESA is governed by the APA, 5 U.S.C. § 706. Center for Biological Diversity v. Morgenweck, 351 F. Supp. 2d 1137, 1140 (D.

⁶The “best available data” standard requires “far less than ‘conclusive evidence.’” Defenders of Wildlife v. Babbitt, *supra*, at 680. The “best available data” standard was intended to give “the benefit of the doubt to the species”; in other words, the ESA does not require “certainty” before listing is warranted. *Id.* at 680-81. *See also Lohm*, 296 F. Supp. 2d at 1236.

Colo. 2004), *citing* Friends of the Bow v. Thompson, 124 F.3d 1210, 1214-15 (10th Cir. 1997). Under the APA, the reviewing court must set aside agency actions that are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law” or if the action failed to meet statutory, procedural, or constitutional requirements. 5 U.S.C. § 706; Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 413-14, 92 S. Ct. 814 (1971), *overruled on other grounds by* Califano v. Sanders, 430 U.S. 99, 105, 97 S. Ct. 980 (1977). The Court may not substitute its judgment for that of the agency. Citizens to Preserve Overton Park, 401 U.S. at 416.

The court’s limited role is to ensure that the agency’s decision is based on relevant factors and not a “clear error of judgment.” If the “agency’s reasons and policy choices . . . conform to ‘certain minimal standards of rationality’ . . . the rule is reasonable and must be upheld.” This standard presumes the validity of agency action. Deference to an agency’s scientific and technical expertise dictates that agency action must be upheld as long as the agency has “considered the relevant factors and articulated a rational connection between the facts found and the choice made.” In exercising its narrowly defined duty under the APA, a court must consider whether the agency acted within the scope of its legal authority, whether the agency adequately explained its decision, whether the agency based its decision on facts in the record, and whether the agency considered the relevant factors. The court must defer to the agency’s expertise, particularly with respect to decision-making which involves “a high level of technical expertise.”

Defenders of Wildlife v. Babbitt, *supra*, at 678-79 (internal citations omitted).

Thus, under this standard of review, the Court’s own view of whether or not a listing is appropriate is of no consequence. Due to their expertise and unique qualifications, administrative agencies such as the FWS have been authorized by Congress to make these determinations so long as the agencies comply with certain requirements. Stated differently, a court sets aside an agency decision as arbitrary and capricious if the agency (1) relied on factors that Congress did not intend it to consider, (2) failed entirely to consider an important aspect of the problem, (3) offered an explanation for its decision that runs counter to the evidence before the agency, or (4) is so

implausible that it cannot be ascribed to a difference in view or the product of agency expertise. Sierra Club, 352 F. Supp. 2d at 917, *citing* Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43, 103 S. Ct. 2856 (1983); Friends of the Bow, 124 F.3d at 1215.

Deference is owed to an agency decision, but such deference is not without limits. Defenders of Wildlife v. Babbitt, *supra*, at 679. For example, an agency’s decision should not be upheld if the agency failed to articulate a reasoned basis for its decision, or failed to articulate a rational connection between the facts found and choices made. Id. In addition, the deferential standard “does not shield the agency from a ‘thorough, probing, in-depth review.’” Lohn, *supra*, at 1230 The “thorough and probing” review, however, is not license for substitution of the court’s judgment for that of the administrative agency. The court’s inquiry “must be searching and careful, but the ultimate standard of review is a narrow one.” Custer County Action Ass’n v. Garvey, 256 F.3d 1024, 1030 (10th Cir. 2001), *citing* Marsh v. Oregon Natural Res. Council, 490 U.S. 360, 378, 109 S. Ct. 1851 (1989).

Discussion

A. “Significant Portion of the Range”

Before considering Plaintiffs’ argument that the Secretary’s application of the five listing factors was arbitrary and capricious, the Court must first address a preliminary matter which was troubling enough that the Court directed the parties to submit supplemental briefing on the issue. That is, the question of interpretation of the statutory phrase, “significant portion of the range.” The Court upholds FWS’s interpretation of the phrase

As noted above, the ESA requires the Secretary to determine whether a species is “endangered,” which the statute defines as “in danger of extinction throughout all or a significant

portion of its range . . . ,” 16 U.S.C. § 1532(6); or “threatened,” defined as “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”

This definition, with the language “a significant portion of its range,” has been termed “odd phraseology,” “puzzling” and “enigmatic.” Defenders of Wildlife v. Norton, 258 F.3d 1136, 1141 (9th Cir. 2001) (hereinafter referred to as “Defenders (Lizard)”)⁷:

Standing alone, the phrase “in danger of extinction throughout . . . a significant portion of its range” is puzzling. According to the Oxford English Dictionary, “extinct” means “has died out or come to an end Of a family, class of persons, a race o[r] species of animals or plants: Having no living representative.” Thus, the phrase “extinc[t] throughout . . . a significant portion of its range” is something of an oxymoron. Similarly, to speak of a species that is “in danger of extinction” throughout a “significant portion of its range” may seem internally inconsistent, since “extinction” suggests total rather than partial disappearance [fn]. The statute is therefore inherently ambiguous, as it appears to use language in a manner in some tension with ordinary usage.

Defenders (Lizard), at 1141.

The language *is* puzzling and enigmatic. By “significant,” did the drafters mean a large piece of the range in terms of size or percentage, or, rather, did they mean a piece which is biologically significant? By “range” did they mean the species’ entire historic range, or its current range? If the former, how far back in time is the agency required to go to determine the species’ historic range? What if the historic range expanded and contracted over time?

⁷Because more than one of the “listing” cases cited in this opinion is titled Defenders of Wildlife v. Norton, to avoid confusion the Court will refer to these cases as “Defenders” followed by a parenthetical notation of the species involved; for example, Defenders (Lizard).

Due to the Court's concern, indeed its "puzzlement," over these various interpretations, it asked the parties to supply supplemental briefing on these and related questions. As the Court noted in its order directing further briefing, it would make no sense to:

require a listing in each instance in which evidence exists that a particular species no longer occupies its historic range. Thus, rather than being a factor the FWS should appropriately consider, the FWS's discretion would be virtually non-existent and a finding that a species – any species – no longer occupies the territory it once did, would swallow up every other consideration or determination that could be made based on the best scientific and commercial data available. In other words, present conditions or present steps to protect and manage a species, even if successful, would have no bearing on a decision if evidence supported the finding and conclusion that a significant portion of the species['] historical range has been depleted.

[Doc. 64, at 12-13].

This is one reason why the Ninth Circuit rejected the argument, made by the plaintiffs in that case, that the projected loss of 82% of the flat-tailed horned lizard's habitat constituted a significant portion:

There are two problems with Defenders' quantitative approach. First, it simply does not make sense to assume that the loss of a predetermined percentage of habitat or range would necessarily qualify a species for listing. A species with an exceptionally large historical range may continue to enjoy healthy population levels despite the loss of a substantial amount of suitable habitat. Similarly, a species with an exceptionally small historical range may quickly become endangered after the loss of even a very small percentage of suitable habitat [T]he percentage of habitat loss that will render a species in danger of extinction will necessarily be determined on a case by case basis. Furthermore, were a bright line percentage appropriate for determining when listing was necessary, Congress could simply have included that percentage in the text of the ESA.

Defenders (Lizard), at 1143.

The parties' supplemental briefing makes clear they agree that it is the species' current range which the agency is supposed to examine in making the determination. This is the extent of their agreement, however. Defendants state:

The Fish and Wildlife Service makes its determination of a species' status based on the species' current range. However, as part of the determination, a species' historic range is also considered because it helps to inform decisions on the species' status in its current range A particular geographic area can be so important to the continued existence of a species that threats to the species in that area can have the effect of threatening the viability of the species as a whole, even if some portions of the range of the species are not directly subject to those threats In other words, threats to the species in *a portion of the range that is significant* can drive the result of the listing analysis with respect to the entire species The Service determines whether a portion of the range is 'significant' based on the biology of the species (distribution and density of the species, contribution of the area to the life history needs of the species, etc.) and the nature of the threats being analyzed [T]he Service considers all available information . . . relevant to the question of whether the species is likely to become in danger of extinction in the foreseeable future Data regarding both the current and historical ranges of the species can be relevant to that question, and must be considered. But . . . the focus of the Service's analysis is necessarily on the viability of and threats to the species as it exists now (and into the future). Range contraction, even very substantial range contraction, does not itself require a species to be listed. [Italics added].

[Doc. 66, at 2-4].

Plaintiffs state:

There is no dispute that FWS considers the entire current range of a species in deciding whether to list [it] as endangered or threatened. In addition, *Plaintiffs agree with the biological factors FWS evaluates to determine whether the habitat areas that have been lost or are subject to threats are significant.* However, Plaintiffs strongly object to FWS's extremely limited view of the importance of historic habitat range in making a listing decision Under FWS's interpretation, the loss of historic habitat range, alone, can never result in listing a

species. This is true no matter how much habitat has been lost and regardless of the biological significance of the lost habitat. [Emphasis added].

[Doc. 69, at 3].

Plaintiffs misstate Defendants' position. Defendants do not argue that the loss of historic habitat range can never result in listing a species, *regardless of the biological significance of the lost habitat*. Rather, Defendants take the position that: "A particular geographic area can be so important to the continued existence of a species that threats to the species in that area can have the effect of threatening the viability of the species as a whole" Defendants further argue, however, that in this case the viability of the RGCT is not threatened in a biologically significant geographic area.

The Court is aware that the Ninth Circuit, in Defenders (Lizard), rejected FWS's interpretation of the ESA's language which considers whether "the species as a whole" is threatened:

The Secretary in her brief interprets the enigmatic phrase to mean that a species is eligible for protection under the ESA if it "faces threats in enough key portions of its range that the *entire species* is in danger of extinction, or will be within the foreseeable future." She therefore assumes that a species is in danger of extinction in "a significant portion of its range" only if it is in danger of extinction everywhere [fn]. If, however, the effect of extinction throughout "a significant portion of its range" is the threat of extinction everywhere, then the threat of extinction throughout "a significant portion of its range" is equivalent to the threat of extinction throughout *all* its range.

Id., at 1141-42. However, this Court does not agree with the Ninth Circuit's reasoning.

The purpose of a listing is to ensure that a species does not go extinct, either (1) completely extinct, so that no individuals of the species exist anymore anywhere in the world; or (2) extinct in a "significant portion" of the range. 16 U.S.C. § 1532(6). The parties in this case agree that the

word “significant” here does not mean *geographically* significant, in the sense of a large area of land or a large percentage of the species’ historical habitat, but rather implies a *biologically* significant portion of the range. [See, Defendants’ Supplemental Brief, Doc. 66, at 3; and Plaintiffs’ Supplemental Brief, Doc. 69, at 2, 3]. The Court adopts Defendants’ interpretation of “biologically significant” to mean a portion that is “so important to the continued existence of a species that threats to the species in that area can have the effect of threatening the viability of the species as a whole.” The Court further agrees with Defendants in this case that the RGCT is not threatened in a biologically significant portion of its range, even though its geographic and/or historic range may be significantly reduced.

This appears to be the most appropriate and logical way to view this “puzzling” phrase. This interpretation does not preclude listing a species, including a subspecies or a distinct population segment, in only a portion of its current range, which seems to have been the concern of the Ninth Circuit in the Defenders (Lizard) case. Listing in only a portion of the range may be all that is necessary to ensure the survival of the species. If the agency making the listing decision determines that a species should be protected in only a portion of its range, it may designate a subspecies in that portion or a “distinct population segment” as endangered. See, 16 U.S.C. § 1532(16).

Generally speaking, distinct population segments are groups of organisms from the same species that occupy geographically discrete areas, for example, the Alaskan bald eagle and the bald eagle in the lower 48 states. Subspecies, on the other hand, are groups that may occupy the same geographic region as the species to which they belong, but are characterized by enough genetic or evolutionary difference from other members of the species so as to require separate protection The reason Congress wrote the ESA so that it would protect subspecies and distinct population segments are straightforward. Two of the main purposes of endangered species protection are to conserve ecosystems and to protect the integrity of

the evolutionary processes that are taking place in those ecosystems. Granting ESA protection to a distinct population segment serves the first purpose. For example, there may be enough grizzly bears in Alaska to make us feel comfortable that the grizzly bear species will never go extinct. However, the grizzly bear population in the Yellowstone ecosystem is dwindling and the grizzly bear is an integral part of that system. As a top predator in that system, it provides an important function in maintaining the natural balance of species there. If the goal is to protect the Yellowstone ecosystem, it is important to protect the distinct population segment of Yellowstone grizzlies. Granting ESA protection to a subspecies helps to protect the natural trajectory of evolution. A subspecies contains genetic information that distinguishes it from other members of the species. It may be that the subspecies will eventually evolve to become a new species: its genetic make-up may prove to make it more successful in persisting. Genetic diversity is the catalyst of evolution.

Stanford Environmental Law Society, The Endangered Species Act 32 (2001).

In determining whether a species, or a subspecies, or a distinct population segment is endangered, FWS is to examine several factors listed in the statute [*see, supra*, p. 5], only one of which is loss or degradation of the species' habitat or range. A listing may be made only if that habitat loss or degradation renders a species "endangered." Thus, it is possible to conclude that 99% of a species' historic range may be lost, yet the species will still be thriving in the 1% that is left, in sufficient numbers and sufficient health, and will still be sufficiently protected from natural and manmade threats, that no listing is necessary in order to preserve the species. Indeed, that is what the FWS found in this case.

If FWS had found that certain subspecies or distinct population segments within the range were important to maintenance of the ecosystem or for genetic diversity, nothing in the Court's interpretation of "significant portion of the range" would prevent the listing of those particular segments of the species. There is no indication on the record that any such subspecies or distinct

population segments exist in the RGCT's range, however, and the ESA does not require the FWS to carve up minute portions of the range and apply protections in a scattered fashion in order to protect some smaller populations of the trout in portions of the range which are not biologically significant.

The question of "significant portion of the range" has been complicated in this case, because the FWS identified 13 "core populations" of RGCT, or those deemed most likely to persist based on the three factors of genetic purity (lack of hybridization), population stability (sufficient population size), and population security (isolation from nonnative trout), and then applied the five statutory factors to these 13 populations only.⁸ Given the FWS's estimate that there are 106 populations of RGCT in New Mexico and an additional 161 in Colorado, for a total of 267, the 13 core populations (3 in Colorado and 10 in New Mexico) represent only about 5% of the total number of populations (although more than 5% of the total number of fish).⁹ CSR at 39,937-39.

Some courts have questioned this method of analysis which focuses on "core populations." In Defenders of Wildlife v. Norton, 239 F. Supp. 2d 9 (D. D.C. 2002) ("Defenders (Lynx)"), *vacated on other grounds*, 89 Fed. Appx. 273 (D.C. Cir. 2004), the district court found arbitrary and capricious the FWS's decision to change from "endangered" to "threatened" the status of a distinct population segment of the Canada Lynx. The FWS reasoned that, although the numbers and range of the lynx in the contiguous U.S. had been substantially reduced from historic levels, the lynx was

⁸Plaintiffs' challenge to the method used to identify these 13 core populations is discussed below under heading (B).

⁹The population figures are the source of Plaintiff's statement that 95% of the remaining populations are threatened. This statement is somewhat misleading, however. While it is true that 254 populations, or 95% of the total number of populations, are those which the FWS deems more vulnerable to threats that affect long-term persistence, it is also true that the 13 core populations, by definition, are those with larger numbers of fish than the others. Therefore, those 13 populations include more than 5% of the total number of fish.

nevertheless thriving in one portion of its historic range, the Northern Rockies/Cascades, and the other three portions – the Northeast, Great Lakes, and Southern Rockies – collectively “do not constitute a significant portion of the range” of the U.S. Lynx. The district court found this to be “counterintuitive and contrary to the plain meaning of the ESA phrase ‘significant portion of its range,’” based on the dictionary definition of “significant,” which means “a noticeably or measurably large amount.” Defenders (Lynx), at 19.

The Lynx case is not persuasive. The court in that case considered the word “significant” to refer to an “amount” of geographical area. But the Court and, as noted above, both parties in this case, have rejected that use of “significant” in the context of the ESA, focusing instead on the biological significance of the lost range, not its raw size. If raw size of the range were the only determinative factor, virtually every non-domestic species of wildlife in North America would be listed. Historical accounts in the Lewis and Clark journals, for example, describe abundant wildlife across the depth and breadth of the country they explored, and that historical range no longer exists in its pristine state.

In National Wildlife Federation v. Norton, 386 F. Supp. 2d 553 (D. Vt. 2005), the district court found arbitrary and capricious FWS’s decision to downgrade two “distinct population segments” of the gray wolf from endangered to threatened status. In making this decision, the FWS limited the “significant portion” of the wolf’s range to the western Great Lakes states, areas that ensure the validity of the population segments at issue. The district court found fault with this method:

The viability of this population, therefore, renders all areas outside the Western Great Lakes region insignificant, even though the FWS acknowledged in the Proposed Rule that there would be ‘extensive

and significant gaps' in the wolf's range without a wolf population in the Northeast The Final Rule makes all other portions of the wolf's historical or current range outside of the core gray wolf populations insignificant and unworthy of stringent protection.

Id., at 566.

The Court rejects this approach to the issue. It appears that the Vermont court would require the FWS to “stringently protect” areas of land where the gray wolf once roamed and, in effect, to restore the wolf to all of its historical range, which is not the purpose of the ESA. The relevant issue in a listings case is whether the species in question is in danger of extinction throughout all or a significant portion of its range. In making this determination, the FWS must take into account the species' historical range and reductions thereto. But even with a reduction in range, and reduction in absolute numbers of fish or numbers of fish population, if the remaining core populations ensure the species' survival throughout its range or a significant portion thereof, then the species is not endangered.

In the present case, the FWS found that the 13 core populations of RGCT were not threatened with extinction in all or a significant portion of the RGCT range, due to any of the five listed factors, and that the fish is therefore not endangered. In doing so, the FWS did not ignore the trout's historical range (as discussed more fully below), nor did it find that the fact of habitat degradation or disappearance was somehow unimportant. In explaining why it decided to focus on the 13 core populations, FWS said:

It has been estimated that there are 106 populations of RGCT in New Mexico (NMDGF 2002) and 161 in Colorado (Alves et al. 2002) in both streams and lakes. All of these populations contribute in some way to the overall security of the range-wide population. However, many of these populations have hybrids, some populations have an extremely low number of individuals, and some have been invaded by

nonnative salmonids that either hybridize or compete with RGCT. These factors can make individual RGCT populations more vulnerable to extinction and limit the likelihood of their long-term persistence. Conservation actions can remove or reduce these threats. Because ecological factors affecting persistence vary among populations, we decided to use criteria to categorize populations based on vulnerability to threats that affect long-term persistence.

CSR 39,937.

The application of those criteria resulted in identification of the 13 core populations. In the conclusion to the CSR, FWS noted that, in addition to the 13 core populations, there are other populations which may eventually be included in the core group of “pure, stable, and secure” populations, once genetic testing has been completed. There are also additional large populations of pure RGCT which have recently been invaded by nonnatives, either because of barrier failure or illegal transplantation, but which nevertheless are located in long streams and maintain large population size. FWS noted ongoing efforts to remove the nonnatives from these populations and stated that “[t]hese populations are important components of the range-wide population.” CSR 39,945-46. FWS noted as well that there are also several pure populations of RGCT in New Mexico and Colorado which do not meet the minimum population number and were therefore not included in the core group, but:

[w]hile these populations may be at greater long-term risk of extinction compared to large populations, they continue to persist. In the future these populations may be expanded downstream, and they may serve as repositories of unique genetic material. As such they also are important components of the range-wide populations, and provide additional security for the overall status of the subspecies We have determined that the 13 core populations are not threatened by any of the identified threats alone or in combination. Our finding is also based upon the other large populations of RGCT identified in Tables 1 and 2, as well as the 21 other populations discussed above. We find that these populations are likely to persist

into the future because of the large numbers of individuals within these populations and the threats are adequately addressed by the ongoing management actions of the States and Federal agencies . . .

CSR 39,946.

There is neither logical nor legal error in FWS's approach. FWS focused on the core populations. The RGCT's lost habitat may be numerically or geographically large, in terms of acreage or stream miles, but not biologically significant because the species' survival is not threatened by the shrinkage in habitat. In the present case, the FWS found that the 13 core populations are sufficient to ensure the species' survival throughout all or a significant portion of the fish's range. This is consistent with the purpose of the ESA. It may be akin to evaluating how well a school is performing its educational function by considering only the brightest and most diligent students, but such a focus makes sense if one is attempting to predict how well the school would perform in, say, a national science competition where only the best, hardest-working students would be in the running. The purpose of the ESA is not to assess generally how well the ecology is performing but rather to make the best prediction possible as to a species' chance of survival. In any event, as noted above, the FWS did consider and discuss the non-core populations, CSR 39,945-46, noting that they "are important components of the range-wide population and provide additional security for the overall status of the subspecies." CSR 39,946.

In sum, the Court cannot say that FWS's interpretation of the phrase "significant portion of the range" is legally erroneous or failed to conform to minimal standards of rationality.

B. FWS's Method of Identifying the 13 Core Populations

Plaintiffs contend that, even assuming it was valid to identify 13 core populations and apply the five statutory factors to these populations, the way in which FWS went about identifying these

populations was faulty. The Court's review of this methodology is limited to determining whether FWS utilized the best scientific methods in making their determination, and whether the agency's conclusion is supported by the record.

As described above, FWS used three criteria to classify 13 populations of RGCT as "core" populations – that is, those with the greatest chance of persistence in the face of the various threats. Those three criteria are: (1) genetic purity (lack of hybridization); (2) population stability (sufficient population size); and (3) population security (isolation from nonnative trout).

1. Genetic Purity

With regard to genetic purity, Defendants point out that FWS identified 82 populations in New Mexico and Colorado that are genetically pure. SAR 1999, 2002. For purposes of the CSR, FWS considered "purity" to mean that there was less than 1 percent genetic mixing with other species of trout. To test for purity, FWS used either allozymes (forms of an enzyme) or nuclear DNA. They did not use mitochondrial DNA, because it is passed on only from the mother to her offspring and therefore can be used to detect hybridization only when the mother was RGCT and the father was another species. None of the identified "pure" populations included those that were tested with mitochondrial DNA, or the even less definitive "meristics" method which employs a count of body parts. CSR 39,938.

Plaintiffs argue that FWS never completed the required genetic testing in order to determine whether the 13 core populations are, in fact, genetically pure. This is not the case. FWS stated in the CSR that an additional 13 populations, beyond the 82 that were identified with allozyme or nuclear DNA testing, have been identified by use of meristics or mitochondrial DNA testing. These were not included as definitively "pure" populations, FWS said, because more testing would have to

be done in order to include them. This testing is in progress and FWS expects that it will result in more “pure” populations being identified. In the meantime, these questionably pure populations were not included in the “core” populations.

In addition, FWS noted that:

The exclusion [from the core group] of populations with evidence of greater than 1 percent introgression [genetic mixing] does not imply that these populations may not be important to the species conservation or that they should be eliminated from stream systems. They provide recreational opportunities for anglers; in some watersheds they may act as a buffer between pure populations and downstream areas where nonnatives are present, and in some streams hybrids may still contain genes unique to a watershed.

CSR 39, 938.

The Court cannot find, nor have Plaintiffs pointed out, anything suspect in FWS’s methodology for determining “pure” populations, and the Court cannot say that FWS hasn’t used the best scientific methods in making this determination.

2. Population Stability

The second factor used to identify the 13 core populations is that of “population stability,” or numbers of individual fish sufficient to maintain genetic variation and prevent inbreeding depression, that is, genetic defects caused by mating between closely related family members. FWS also pointed to studies indicating that large populations may be less susceptible to random demographic events such as alterations in the male / female ratio, and random environmental events such as fires or floods that can wipe out smaller populations. In addition, smaller populations may be more vulnerable to detrimental effects of genetic change. CSR 39,938.

FWS considered that 2,500 total fish in a population is a number that will ensure long-term persistence, that is, will reduce the risks associated with small population size alone. Its rationale is explained at CSR 39,938-39. In evaluating population stability, and adopting a 2,500 fish population, FWS took into account not only population size, but also stream length, fish density (the number of fish in a unit area), and biomass (the weight of fish per unit area). Longer stream length creates a greater chance that the population will be able to persist. High density and biomass indicates good habitat able to support a thriving population. All of these factors were considered by FWS in assessing population stability.

Plaintiffs criticize FWS's determination that 2,500 fish constitutes a stable population. In support of this argument, Plaintiffs point to a study on the record stating that a viable population of Rio Grande cutthroat trout – that is, one that has less than a 10 percent chance of extinction in 100 years and less than a 10 percent decline in any 10-year period – has a “long-term effective size” of at least 500 breeding adults and a total population size of at least 5,000 fish. AR 725. This latter statement comes from a January 2002 publication of the NMDGF entitled “Long Range Plan for the Management of Rio Grande Cutthroat in New Mexico.” AR 707-808. As support for this statement, the study's authors cite a 2001 report by D.E. Cowley entitled, “Defining Population Viability for Rio Grande Cutthroat Trout Management” (Report to the NMDFG). AR 737.

In the CSR, FWS referred specifically to Dr. Cowley's methodology and cited the 2002 report. The CSR noted that Dr. Cowley developed a model to determine population viability for RGCT in New Mexico, a model incorporating habitat size, population size, reproductive success, and probability of extinction. CSR 39,983. For purposes of the CSR, FWS said that it considered elements of Dr. Cowley's model, along with work done on other populations of salmonids, to

evaluate the likelihood of long-term population persistence. One of these studies was a 1980 study by I. R. Franklin which set forth a rule “still used as a starting point by which to judge the viability of populations.” Id. Other studies consulted include a NOAA Technical Memo authored by G.G. Thompson (“Determining Minimum Viable Populations Under the Endangered Species Act”), and studies by Nelson and Soule (“Genetical Conservation of Exploited Fishes”); Rieman and McIntyre (“Consideration of Extinction Risks for Salmonids”); and Hilderbrand and Kershner (“Conserving Inland Cutthroat Trout in Small Streams”).

Plaintiffs may argue that greater weight should have been afforded Dr. Crowley’s study. However, it is clear that FWS did not ignore it. To the contrary, FWS considered Dr. Crowley’s model as one of many scientific works devoted to the determination of population viability. The Court cannot say that FWS ignored the Cowley study, nor that FWS should have used Dr. Cowley’s figure of 5,000, rather than the 2,500 figure which it chose after reviewing the available literature. It is not the Court’s function to pick and choose which model of population viability the Court prefers. That would constitute a clear substitution of judgment.

Nor does the Court sit in review of the scientific validity of these studies; its limited role is to determine whether the Service’s conclusions and determinations are supported by the record and whether the agency has adequately articulated the reasons for its choices. Here, FWS considered contradictory scientific studies and articulated a sound rationale for adopting the population figure that it did. The 2,500 fish figure was not plucked from the air. In the CSR, the agency articulated the reasoning behind its choice of the 2,500 figure, including discussion of related issues such as stream length and biomass, in making the choices and conclusion it did regarding stability of populations. It explained the analysis required for determining an optimum population size, including

such factors as the percent of individuals capable of breeding, the number of animals that actually breed, sex ratio, and other factors. CSR 39,938-39. The analysis is based on a reasoned and thoughtful consideration. The methodology adopted has a scientific basis. The Court does not find this analysis to be arbitrary and capricious or unsupported by scientific data. To the contrary, FWS relied on appropriate scientific methodology.

Plaintiffs also take issue with FWS's identification of the 13 stable core populations on the basis of numbers of fish, arguing that some of the 13 populations were established by stocking which has not proven to be effective over time. It is too soon to know, Plaintiffs contend, with respect to at least some of the 13 populations, whether the restocked populations will breed in the wild and maintain their numbers.

Defendants concede that translocations sometimes fail. However, they argue, the record indicates that failure rate is dependent on stream conditions, and the evidence considered by FWS shows that streams of 5.7 km or longer will provide sufficient habitat to maintain a population. AR 6565, 6568. In addition, FWS had before it record evidence that translocation attempts in streams that previously supported fish populations are more successful than those in streams that previously had no fish. AR 6568-69. Of the 13 core populations of RGCT identified for the CSR, four were established through translocation. This experience, in and of itself, refutes the contention that restocking, even over time, is ineffective. All of these four populations were found in streams which are 9.5 km or longer and which previously supported trout. SAR 1999, 2002.

3. Population Security

Regarding the third factor, population security, Plaintiffs contend that the record evidence does not support FWS's conclusion that the 13 core populations are secure from nonnative trout due

to barriers, because some of the populations do not have any barriers at all, because barriers often fail, and because the strength of barrier protection relies on future voluntary measures such as regular maintenance as well as education of the public, to prevent well meaning but uninformed relocation of nonnative species into the RGCT's habitat.

Defendants take issue with Plaintiff's statement that two of the 13 core populations, Cross Creek and Canones Creek, do not have barriers at all. The record supports Defendants' assertions that Canones Creek has a natural barrier created by a rock waterfall, SAR 1026.243 (data included on floppy disk); and that Cross Creek is protected by the dewatered Jacks Creek, of which it is a tributary. AR 1026.200. Defendants state in their brief [Doc. 43, at 14 n.7] that Plaintiffs relied on an early version of a spreadsheet, later revised, in making the assertion that these two populations had no barriers, and that they misinterpreted a statement that "no barrier was found" at Canones Creek. Plaintiffs do not dispute these assertions, and the Court accepts them.

As Defendants point out, the record includes spreadsheets which, among other things, describe the barriers protecting the 13 core populations in New Mexico and Colorado. SAR 1996-2006. All of these barriers are rated as "impassable." Although it is certainly true that barriers can fail, and that nonnatives can be introduced above barriers, the Court finds, as discussed below in section C(1), that FWS's determination that barrier condition was sufficiently secure that the core populations were not threatened, is not an arbitrary and capricious conclusion.

C. The "Not Warranted" Determination was Not Arbitrary and Capricious

As noted above, the Court must apply a deferential standard in its review of an FWS listing determination and must not substitute its judgment for that of the agency. Citizens to Preserve Overton Park, *supra*, 401 U.S. at 416. The FWS found that none of the five statutory factors [listed

supra, at p. 5] provides a basis for listing the RGCT as endangered. Plaintiffs challenge each of these findings, with the exception of the second (“overutilization for commercial, recreational, scientific, or educational purposes”). Upon review, the Court cannot say that the FWS’s conclusions with regard to the four challenged factors were arbitrary and capricious or failed to conform to “certain minimal standards of rationality.” Defenders of Wildlife v. Babbitt, *supra*, at 678.

1. Destruction or modification of habitat or range

The first factor listed at 16 U.S.C. § 1533(a)(1) which could provide a threat to a species and make it eligible for listing is “(A) the present or threatened destruction, modification, or curtailment of its habitat or range.” FWS concluded that neither the extent of reduction in the RGCT’s range nor the present condition of its habitat were threats to the continued survival of the species throughout all or a significant portion of its range. Plaintiffs challenge this conclusion.

FWS began its analysis of this factor by acknowledging that “[t]he historic range of the RGCT has been greatly reduced over the last 150 years” and that “many populations have been lost or impacted by water diversions, dams, habitat degradation, changes in hydrology, hybridization with rainbow trout, or competition with brown or brook trout.” CSR, at 39,940. FWS stated further that it is difficult to quantify the exact magnitude of the decline in habitat or numbers of fish, because there are no baseline data; however, studies have estimated that stream miles have been reduced by 91 to 99 percent. Id. RGCT are now restricted to headwater and “first and second order streams” that are narrow and small compared to the larger “second, third, and fourth order streams” that they once occupied. As a consequence of this habitat loss, RGCT populations that were once connected are now isolated. Id.

The causes of RGCT habitat loss are several, including diversion of water for agricultural purposes from tributaries of the Rio Grande via acequias and dams; grazing pressure from sheep, cattle, horses and mules; introduction of rainbow, brook and brown trout; and timber harvesting and associated road-building, leading to increased levels of sedimentation in streams. Id. These activities created a fragmentation of the trout's habitat, in that streams that once flowed into connecting waterways are now isolated and the fish that inhabit these streams are now restricted to disconnected, high-elevation streams. FWS pointed to studies indicating that the colder water temperature in these streams can lead to lower productivity and a negative growth rate, which may result in extinction over time. Id. However, it is also clear that the RGCT survives in the cold water climates and cannot survive in warmer water courses.

One study, FWS noted, concluded that fragmentation can accelerate extinction in that isolated fish populations are more vulnerable to demographic changes such as the random occurrence of uneven male / female ratios, environmental changes and natural catastrophes such as fires and massive flooding, and loss of genetic diversity through inbreeding. Another study posited that individuals that have migrated away from a stream segment may provide a "hedge against catastrophes" because they escape death during the catastrophic event and are then available to re-colonize the habitat once it becomes livable again. CSR at 39,940-41.

In spite of these factors, FWS stated that fragmentation is not a threat to the persistence of the 13 core populations of RGCT now or in the foreseeable future. This conclusion is based on the following considerations. First, the threats posed by habitat fragmentation can and are being alleviated by management activities. FWS noted that there are currently five pure, stable and secure populations of RGCT that are connected to at least one other tributary. Six additional large, pure,

connected populations exist, but these include nonnatives. However, state and Forest Service personnel have been successful in removing nonnatives from these streams as part of ongoing management actions. CSR at 39,941.

In addition, all thirteen of the pure, stable and secure populations contain more than 2,500 fish which number, FWS stated, is sufficiently large to prevent an unacceptable rate of inbreeding and to maintain genetic variability in the populations. FWS considered also that the length of the streams (a mean of 12.4 km, or 7.7 miles) is sufficient to provide diverse habitats to meet all the life history requirements of the fish, as evidenced by the high fish density present in the core streams. Finally, FWS noted that although fragmentation of habitat raises the possibility of extirpation of particular populations from catastrophic events such as fire, state and federal agencies can replace those populations with fish transplanted from another pure population. Id.

The trout's habitat has not only been reduced in quantity, it has also suffered degradation in quality as a result of various activities including livestock grazing, timber harvesting and associated roads, and mining. Due to its sedimentation effects, livestock grazing presents the greatest threat. However, FWS concluded that habitat condition, while not perfect and while it may prevent the maximum reproductive potential in some populations, does not present a threat to the existence of any of the 13 core populations. That conclusion was based on the following considerations.

Habitat condition in streams with pure, stable and secure populations of RGCT was assessed by state and federal biologists. They rated the trout's habitat condition on a scale from 0 to 2, with "0" meaning no habitat problems; "0-1" meaning headwater reaches are in good condition with lower reaches having problems in discrete areas; "1" meaning that some problems were identified, usually such things as sedimentation, lack of pools, or warm water temperature; and "2" meaning pervasive

problems are present. In most instances, the raters described the RGCT's range between 0 and 1, with very few streams in the 2 category. The agencies performing the ratings were of the opinion that habitat problems are typically localized and could be or were being addressed through improved management practices.¹⁰ CSR at 39,941-42.

Finally, under the heading of habitat, FWS discussed fish barriers, which it said are "essential to separate RGCT from nonnative salmonids," or fish that dilute the gene pool and compete with the RGCT for habitat. FWS noted that, to be effective, barriers must be checked, repaired and maintained on a regular basis. In addition, streams above the barriers must be checked regularly for inadvertent breach by nonnative fish and the nonnatives removed on a regular basis. The FWS noted that both Colorado and New Mexico have conducted barrier inventories. In addition, the Forest Service assesses barriers as part of its stream surveys, and the Service has in recent years added biologists and technicians to its staff, thus increasing the miles of stream inventories that the agency is able to conduct. For these reasons FWS concluded that barrier failure, while it does occur, does not constitute a threat to survival in the 13 core populations. CSR at 39,942.

¹⁰FWS also refers to several watershed projects that have been initiated on private and National Forest lands and which are in "various phases of implementation," noting that habitat conditions are expected to improve as a result of these projects. In addition, FWS points to ongoing efforts by the Forest Service to restore riparian areas, the fact that timber harvests have been declining in the past 15 years, and the fact that few new roads are being built and, indeed, some roads are being decommissioned. CSR 39,941-42. The Court does not consider these factors in conducting its review of agency action, because: (1) FWS stated explicitly that it was not relying on the watershed projects as part of the status review since, "[w]hile some progress has been made, we note that a significant amount of planning and on the ground activities remain to be done [and we] . . . recognize that these projects may not come to fruition"; and (2) FWS must make its listing decisions based on the status of the species at the time the decision is made; it cannot rely on potential improvements that may never materialize. Defenders (Lizard), at 1146.

Plaintiffs challenge FWS's finding that habitat reduction and degradation do not pose a threat of extinction.¹¹ They point to the habitat assessments, which rate the trout's habitat streams from 0 to 2, and note that nine of the 13 core populations occur in streams rated 1 or 2. They state further that FWS's "dismissal" of habitat degradation as a threat was based on the claim FWS made, in broad terms with no record support, that the threats to habitat will decline in the future. Plaintiffs also argue that FWS improperly relied on declining timber harvest and the decommissioning of logging roads to support the conclusion that habitat will improve in the future, and that its statement that habitat threats are "typically localized and can be or are being addressed through habitat management practices" is unsupported by record evidence. [Doc. 30, at 18-20]. Plaintiffs also argue that the current fragmented condition of the trout's habitat, in which the individual populations are isolated from each other and restricted to stream fragments, constitutes a threat to the RGCT. [Doc. 30, at 22-24].

In response, Defendants note that "it is virtually impossible to find a stream in the western United States that is in pristine condition, and this accounts for the fact that the state and Forest Service biologists could find only three of the RGCT's streams which had no habitat problems at all. Defendants acknowledge, and the record shows, that the streams containing nine of the 13 core populations were described as having "some problems related to good stream habitat." However, Defendants argue, having "some problems" does not signify a threat to the continued existence of RGCT populations. The Court notes that, of the 13 streams with core populations, three are rated

¹¹Much of Plaintiffs' argument with regard to the habitat finding is included in their discussion of a different potential threat listed in the statute, *i.e.*, whether "other natural or manmade factors" affect the species' continued existence. Because these arguments more logically fall under the first, "habitat or range" factor, the Court will address them here.

“0,” eight are rated “1,” one is rated at “0-1,” and one is rated at “2.” SAR 1999, 2002. These ratings support FWS’s conclusions.

Moreover, Defendants point to record evidence that the one stream of the 13 which is identified as having extensive habitat problems (*i.e.*, rated “2”), Rio Cebolla, nevertheless maintains a “thriving” population of RGCT, based on population numbers and biomass (*i.e.*, weight of fish in a unit area, expressed in pounds per acre or kilograms per hectare). [Doc. 43, at 9, 17]. The record supports Defendants’ statement; the Rio Cebolla population numbers are not particularly low (near the middle of the 13 populations), and the biomass statistic for this population (159 kg/ha) is the second highest of the 13 core populations. SAR 1999, 2002.

Plaintiffs criticize FWS for relying on a past and prospective decline in timber harvest and road-building for its determination regarding habitat degradation. But, as noted *supra* in fn. 10, FWS stated it was not relying on these factors, and the Court does not consider the declining timber harvest or the road building assertion as part of its review.

Plaintiffs’ argument with regard to habitat fragmentation is based on two concerns: (1) fragmented populations cannot exchange genetic material, resulting in decreased genetic diversity and possible negative growth rates, unbalanced male / female ratios, and inability to adapt to changes in the natural environment; and (2) isolated populations can be wiped out by catastrophic events such as wildfires. [Doc. 30, at 23].

As noted above, FWS did not ignore these factors but rather discussed them in their findings. *See*, CSR at 39,940-41. The agency pointed to studies showing that isolation can constitute a threat, and it discussed the possible specific disadvantages to the trout’s continued survival, which Plaintiffs have also noted. While recognizing fragmentation as a possible problem, FWS concluded, as

discussed above, that “[h]abitat fragmentation is a threat that can be alleviated by management activities.” The agency noted that the 13 core populations each contain over 2,500 fish which is sufficient to prevent an unacceptable rate of inbreeding and to maintain genetic variability; that the current stream lengths of these populations are sufficient to provide diverse habitats; and that even if one or more of the 13 core populations is killed off by an untoward catastrophic event, the population can be replaced by transplanting fish from another pure population. CSR at 39,941. Periodic translocation of individuals from one core population into another, through sound management practices, can also promote population diversity and avoid the potential for genetic inbreeding.

Plaintiffs contend that the statements as to population numbers needed to ward off inbreeding, and as to stream length being sufficient, are not supported by the record. This is incorrect. FWS discusses at length the studies it consulted and the methodology employed in determining whether population size and stream length are sufficient. *See*, CSR at 39,938-39. These studies are referenced in the record at SAR 1026.37-1026.41.

Plaintiffs also argue that transplantation fails more than 50 percent of the time and therefore is not a reliable method of rebuilding a population after a catastrophic event. FWS acknowledges that translocation of fish is not always successful. However, the agency pointed out in the CSR that the success of a translocated population is dependent on stream conditions, including length of the streams and whether the stream previously supported fish populations, and that the mere fact of relocation is not, in and of itself, determinative of the likelihood of survival. While translocation does not always work, it is also clear that it does not always fail. While Plaintiff may have a scientific disagreement with FWS’s conclusion, that is not the test under the applicable standard of review.

In sum, FWS's analysis regarding habitat degradation is supported by the record, and the Court does not find it to be arbitrary or capricious, nor does the Court find that FWS relied on inappropriate factors or entirely failed to consider an important aspect of the problem. To the contrary, FWS considered scientific studies and carefully weighed the best scientific evidence in making its determinations.

2. Disease or predation

The ESA also lists "disease or predation" as one of the factors an agency is to consider in making the determination whether to list a species as endangered. 16 U.S.C. § 1533(a)(1)(C). Although the RGCT is susceptible to threats from whirling disease, FWS concluded that the disease did not put at risk the continued survival of the species throughout all or a significant portion of its range. Plaintiffs challenge this conclusion.

Whirling disease ("WD") was first detected in the United States in 1956, having been transmitted here in fish brought from Europe. The parasite responsible for the disease:

penetrates through the skin or digestive tract of young fish and migrates to the spinal cartilage where it multiplies very rapidly, putting pressure on the organ of equilibrium. This causes the fish to swim erratically (whirl), and have difficulty feeding and avoiding predators Fish can reproduce without passing the parasite to their offspring; however, when an infected fish dies, many thousands to millions of the parasite spores are released to the water.

CSR at 39,942-43. The parasite spores can withstand freezing and desiccation and can survive in the stream for many years. When the spore is ingested by the common aquatic worm, *Tubifex tubifex*, it transforms after 3.5 months into a *Triactinomyon* (TAM) which, when it leaves the worm, can attach to or be ingested by the fish, leading to infection. The parasite spores are easily transported

by animals and humans, and most native species have little or no natural resistance to WD. Cutthroat trout, particularly RGCT, are very susceptible to the disease. Id. See also, AR at 6351-72.

WD was first detected in New Mexico in 1988 and has been confirmed in three drainages that support the RGCT. Several hatcheries in Colorado and New Mexico have tested positive for the disease (although the Seven Springs hatchery in New Mexico has been renovated and is no longer positive for WD). CSR 39, 943.

FWS acknowledged that WD is a potential threat to RGCT but concluded that the disease does not pose a risk of extinction in the 13 core populations, which are located in high-elevation, cold headwater streams with low levels of sedimentation. The secondary host worm, *T. tubifex* is most abundant in streams with high sedimentation, warm water and low dissolved oxygen, and exists but is not abundant in high, clear coldwater streams. Moreover, the isolation of the high elevation streams makes them less susceptible to the spread of spores on waders or landing nets by fishermen. FWS found that at the time of year when young RGCT are most susceptible, *i.e.*, spring and early summer, the low water temperature in the trout's current habitat provides at least some protection from infection. Id.

Another source of infection is the introduction of WD infected fish into waters inhabited by uninfected RGCT. FWS noted that both Colorado and New Mexico forbid the stocking of fish in public waters without prior permission from the state, and both states legally restrict the stocking of fish by private landowners. These regulations aim to protect against the importation of undesirable species and introduction of infectious diseases, including WD. FWS noted that the states of New Mexico and Colorado are testing all their hatchery fish before stocking and are documenting instances

of the disease in streams and educating the public about the disease and how to prevent its spread in the wild. Id.

FWS noted that, while WD poses risks to the RGCT, there has not been a documented loss or decline in population numbers due to WD in any wild RGCT population. It concluded that WD is not a threat to the existence of the species. Id.

Plaintiffs contend that WD remains a significant threat to RGCT. They point out that FWS concedes that RGCT have a less than one percent survival rate when infected. They note that five rivers in New Mexico, and 13 of the 15 drainages in Colorado, contain infected fish, and that in almost half of the streams containing the 13 core populations, WD is present within the population center. And, even in areas not currently infected, Plaintiffs state, both Colorado and New Mexico continue to stock infected fish throughout the RGCT's historic range, where it can easily be introduced to the 13 core populations. [Doc. 30, at 20-22].

Plaintiffs argue that FWS's conclusion that WD is not a threat is arbitrary and capricious, because it is unsupported by record evidence, because FWS's statement that the habitat streams are too cold to support the tubifex worm is not based on any analysis of the streams in question, because FWS ignored the fact that WD can be spread by nonnative trout that breach or are transported above the barriers, and because FWS says only that the disease will be "slowed" in the future, not eliminated. [Id., at 22].

Defendants acknowledge that WD remains a potential threat to RGCT populations, indeed, to all salmonids, as the tubifex worm can and does impact all species of trout. FWS argues that the risk does not presently rise to a level which would justify listing the trout as endangered. The primary fact undergirding this conclusion is a lack of documentation that any population of RGCT has been

lost or declined in numbers as a result of the disease. Plaintiffs do not dispute this fact. The Court agrees with FWS. The Court cannot say that the FWS's conclusion regarding the threat posed by WD was arbitrary, capricious, or an abuse of discretion.

3. Inadequacy of existing regulatory mechanisms

Another factor the agency is to consider in deciding whether a species must be listed is whether existing regulatory mechanisms are inadequate to protect the species. 15 U.S.C. § 1533(a)(1)(D). FWS determined that the states of New Mexico and Colorado, as well as the Forest Service, have in place adequate regulatory mechanisms for the protection and enhancement of the RGCT populations and habitat. CSR at 39,943-44. This conclusion is based on the following considerations.

The New Mexico Department of Game and Fish ("NMDGF") and the Colorado Department of Wildlife ("CDOW") have responsibility for management of the RGCT on all federal, state and private land within their respective states. The capabilities of the two agencies include regulation of fishing, law enforcement, research, and conservation and educational activities related to the RGCT. CSR at 39,943.

New Mexico has in place an approved management plan for facilitation of long range conservation of RGCT. Under the plan, a population inventory was completed on 18 streams, barrier evaluations were completed on 14 streams, and genetic samples were taken from fish in 17 streams. A budget for activities under the plan for 2003-2005 was in place at the time the CSR was completed in June 2002. These activities include population inventory and monitoring, collection and analysis of genetic material, assessing barriers, habitat inventory, inventory of unexplored streams, testing for

and mapping whirling disease, public education, and maintaining a database of the information gathered in these activities. CSR at 39,943-44.

In Colorado, the RGCT has been designated as a “species of special concern,” and the state is implementing and revising a previous management plan for the species. Under this plan, from 1998 to 2001, 58 populations were monitored and 20 populations analyzed using molecular techniques. Efforts at removal of nonnative trout and barrier maintenance and construction projects were completed. Approximately 10,000 brochures on RGCT conservation have been distributed in Colorado. CSR at 39,944.

In addition to state efforts, the United States Forest Service also has management responsibility and authority over RGCT conservation efforts, and it assesses barriers as part of its stream surveys. The RGCT is listed as a Management Indicator Species (“MIS”) in several national forests in New Mexico. MIS are “those species used as a ‘bellwether’ for ‘the other species that have the same special habitat needs or population characteristics.’” Forest Guardians v. United States Forest Service, 180 F. Supp.2d 1273, 1276 (D.N.M. 2001). The MIS acts as a proxy for fulfilling viability requirements under the National Forest Management Act. The RGCT has also been listed on the Regional Forester’s Sensitive Species List, which requires that the species receive special management emphasis to ensure its viability. CSR at 39,944.

Plaintiffs argue that FWS fails to point to record evidence that the regulatory measures on which it relies have been successful in removing threats to the species; in addition, the agency has not shown that the measures were in existence at the time of the listing decision nor that the measures are “regulatory” as opposed to voluntary. [Doc. 30, at 25]. Plaintiffs point to Defenders (Lizard), *supra*, in which the Ninth Circuit rejected the Secretary’s reliance on an interagency Conservation

Agreement, on grounds it is unclear how the benefits assertedly flowing from the agreement affected the lizard's habitat or mitigated threats to the species. The situation in the Lizard case differs from this, however, in that the regulatory mechanisms described with regard to the RGCT are currently in effect and being implemented. The Conservation Agreement in the Lizard case had been recently signed and had only begun to be implemented at the time of the decision in that case.

While FWS points to a similar voluntary and not-fully-implemented conservation agreement in its discussion under this heading, the agency specifically states that it is not relying on this agreement to fulfill the analysis required by section 1533(a)(1)(D), as the agreement is not finalized and any conclusion as to its prospective effectiveness would be speculative. CSR at 39,944. The Court therefore does not consider this agreement in its review of the agency action.

Plaintiffs also discount the agency's listing of the RGCT as a "sensitive species" or MIS, because, they say, the Forest Service does not properly implement these species-protective provisions. Plaintiffs cite five cases in support of this statement. However, the fact that the regulations may have been imperfectly implemented in the past does not support the broad conclusion that the regulatory mechanisms, as they relate to the RGCT, are inadequate.

Plaintiffs argue that FWS has not shown that the mechanisms discussed in the CSR have been effective. Under the statute, however, FWS is charged with examining whether existing regulatory mechanisms are inadequate. FWS looked at these mechanisms and found that both states and the Forest Service have adopted and are implementing management plans which include such activities as forbidding the stocking of nonnative trout species, testing for and mapping WD, implementing broodstock management plans, conducting population and habitat inventories, assessing and maintaining barriers, collecting and analyzing genetic samples, and educating the public on

conservation and disease control. The agency concluded that these mechanisms are appropriate to meet the current threats to the RGCT's continued existence and are therefore not "inadequate." That is all that the statute requires.

4. Other natural or manmade factors

FWS identified four factors under the final catch-all heading of 16 U.S.C. § 1533(a)(1)(E), "other natural or manmade factors" affecting the species' continued existence. Those factors are wildfires, electrofishing, hatchery management, and public sentiment against the use of piscicides (fish poisons). CSR at 39, 944-45.

Plaintiffs argue in their petition that FWS should have addressed, under the catch-all heading, the problems of habitat fragmentation, poor habitat condition, and the presence of nonnative trout. Plaintiff's arguments regarding the first two of these problems were considered by the Court and discussed above under the "habitat or range" factor set forth in 16 U.S.C. § 1533(a)(1)(A).

With respect to the nonnative issue, Plaintiffs contend that the natural and manmade barriers in the RGCT's habitat frequently fail and that the 13 core populations of RGCT continue to be threatened by nonnative species who prey on young RGCT, compete for food and habitat, interbreed with the native stock, and infect the populations with WD. Plaintiffs argue that even when barriers are in good repair and function as they should, nonnative fish can be and are transported and introduced above the barriers by state agencies and well meaning but uninformed members of the public. Plaintiffs acknowledge that FWS recognizes the threat posed by nonnative species but claim the agency nevertheless determined that the 13 core populations are secure due to the presence of barriers.

It is accurate to state that FWS recognizes the threat posed by nonnative species. The agency noted in the CSR that, to be effective, barriers must be checked frequently and must be maintained. It described how a flood event can destroy a manmade barrier, permanently change the stream channel morphology, or create a temporary channel around the barrier. In addition, the CSR noted, changes in water velocity can change an impassable barrier into one that can be breached, and the problem of illegal translocation of nonnative trout could always occur regardless of barrier condition. CSR at 39, 942.

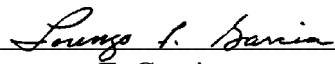
In spite of these problems and potential problems, the agency pointed to measures currently in place to alleviate this threat, including not only the presence of barriers, but also the fact that agency personnel remove nonnatives during the course of regular stream surveys and as ongoing programs in selected streams, CSR at 38,946, and the fact that the states and the Forest Service conduct regular barrier inventories, stream surveys, and public education efforts. CSR at 38,942, 39,943. FWS concluded that, in light of these efforts, barrier failure does not constitute a threat to the continued existence of the RGCT. The agency did not discount or ignore this factor, and the conclusion is not arbitrary or capricious.

Conclusion

Plaintiffs have established neither that Defendants' decision declining to list the Rio Grande Cutthroat Trout as endangered violated the Endangered Species Act, nor that the decision should be overturned as arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, the standard under the Administrative Procedures Act. The requested declaratory and injunctive relief will therefore be denied.

Order

IT IS THEREFORE ORDERED that Plaintiff's Petition for Review of Agency Action [Doc. 29] is denied, Plaintiff's request for an evidentiary hearing [Doc. 54] is denied, and the case is dismissed with prejudice.



Lorenzo F. Garcia
Chief United States Magistrate Judge